

## CLAIMS

1. For vibrating a bar, a vibrator including a vibrator housing, means for vibrating said housing, and means associated with said housing for contacting said bar.
2. A vibrator as claimed in claim 1, wherein the vibrator housing is adapted to seat over an end of the bar.
3. A vibrator as claimed in claim 2, wherein a bore extends at least part way through said housing and is open to receive the end of the bar.
4. A vibrator as claimed in claim 3, wherein a plug is retained within the housing and wherein the bore is provided in the plug.
5. A vibrator as claimed in claim 4, wherein a first bore having a first diameter is provided in the plug, and a second bore having a second diameter is also provided in the plug.
6. A vibrator as claimed in claim 5, wherein the first and second bores are aligned and open out of the plug in opposite directions.
7. A vibrator as claimed in claim 5, wherein the first and second bores are blind bores.
8. A vibrator as claimed in claim 6, wherein the aligned, oppositely directed bores are separated by a member embedded in the plug, said member providing the bottom of each bore.
9. A vibrator as claimed in claim 4, wherein the plug is interchangeably secured within the housing.

10. A vibrator as claimed in claim 9, wherein the plug is secured within the housing by elements extending through respective openings in the housing and into aligned bores in the plug.

11. A vibrator as claimed in claimed 10, wherein the securing elements are bolts.

12. A vibrator as claimed in claim 1, wherein the housing is secured to a casing encompassing a vibrating unit.

13. A vibrator as claimed in claim 12, wherein the housing is secured to the vibrator unit by at least one strap element.

14. A vibrator as claimed in claim 13, wherein said at least one strap element is of staple-like configuration with the free ends of said staple secured to the housing and the body of the staple extending around and secured to the vibrator unit.

15. A vibrator as claimed in claim 12, wherein the housing and the vibrator unit are a unitary member.

16. A vibrator as claimed in claim 15, wherein fins extend radially outwardly from the vibrator unit.

17. A vibrator as claimed in claim 12, wherein an eccentric weight is rotatable in the casing.

18. A vibrator as claimed in claim 17, wherein a shaft extends longitudinally within the casing, wherein the shaft is rotatable by an external source and wherein the eccentric weight is provided on said shaft.

19. A vibrator as claimed in claim 18, wherein the casing is cylindrical and wherein the axis of the rotatable shaft is concentric with the axis of the casing.

20. A vibrator as claimed in claim 18, wherein the shaft and the eccentric weight are a unitary casting.

21. A vibrator as claimed in claim 18, wherein the eccentric weight is secured on the shaft.

22. A vibrator as claimed in claim 21, wherein the eccentric weight is keyed on the shaft.

23. A vibrator as claimed in claim 18, wherein a seal surrounds said rotatable shaft to prevent egress of lubricating liquid from within the vibrator unit and ingress of contaminants.

24. A vibrator including a vibrator unit, a housing coupled to said unit, and means within said housing for engaging a member to be vibrated whereby vibrations from said vibrator unit may be transmitted to said member.

25. A vibrator as claimed in claim 24, wherein a bore extends at least part way through said housing and is open to receive the end of the member.

26. A vibrator as claimed in claim 25, wherein the member is a reinforcing bar and wherein a plug is retained within the housing and the bore is provided in said plug.

27. A vibrator as claimed in claim 26, wherein a first bore having a first diameter is provided in the plug, and a second bore having a second diameter is also provided in the plug, said first and second bores being aligned and opening out of the plug in opposite directions.

28. A vibrator as claimed in claim 27, wherein the aligned, oppositely directed bores are separated by a member embedded in the plug, said member providing the bottom of each bore.

29. A vibrator as claimed in claim 26, wherein the plug is interchangeably secured within the housing.

30. A vibrator as claimed in claim 26, wherein the plug is secured within the housing by elongated elements extending through respective openings in the housing and into aligned bores in the plug.

31. A vibrator as claimed in claim 24, wherein the vibrator unit includes an elongated external casing secured to the housing.

32. A vibrator as claimed in claim 31, wherein at least one strap element is of staple-like configuration with the free ends of said staple secured to the housing and the body of the staple extending around and secured to the vibrator unit.

33. A vibrator as claimed in claim 31, wherein the housing and the vibrator unit are a unitary member.

34. A vibrator as claimed in claim 33, wherein cooling fins extend radially outwardly from the vibrator unit.

35. A vibrator as claimed in claim 31, wherein a shaft extends longitudinally within the casing, and is rotatable about its longitudinal axis by an external source and wherein an eccentric weight is provided on said shaft to create vibrations upon rotation of said shaft.

36. A vibrator as claimed in claim 35, wherein the shaft and the eccentric weight are a unitary casting.

37. A vibrator as claimed in claim 35, wherein the eccentric weight is secured on the shaft.

38. A vibrator as claimed in claim 35, wherein a seal surrounds the rotatable shaft to prevent egress of lubricating liquid from within the vibrator unit and ingress of contaminants.

39. A vibrator including a casing, vibration inducing means within said casing, a housing secured to said casing to be vibrated thereby and means within said housing for engaging and vibrating a member.

40. A vibrator as claimed in claim 39, wherein a plug is retained within the housing and wherein a bore is provided in the plug, said bore being dimensioned to receive one end of the member to be vibrated.

41. A vibrator as claimed in claim 40, wherein a first bore having a first diameter is provided in the plug, and a second bore having a second diameter is also provided in the plug.

42. A vibrator as claimed in claim 41, wherein the first and second bores are aligned and open out of the plug in opposite directions.

43. A vibrator as claimed in claim 42, wherein the aligned, oppositely directed bores are separated by a member embedded in the plug, said member providing the bottom of each bore.

44. A vibrator as claimed in claim 40, wherein the plug is interchangeably secured within the housing.

45. A vibrator as claimed in claim 44, wherein the plug is secured within the housing by elements extending through respective openings in the housing and into aligned bores in the plug.

46. A vibrator as claimed in claim 39, wherein the housing is secured to the vibrator casing by at least one strap element of staple-like configuration with the free ends of said staple secured to the housing and the body of the staple extending around and secured to the vibrator casing.

47. A vibrator as claimed in claim 39, wherein the housing and the vibrator casing are a unitary member.

48. A vibrator as claimed in claim 47, wherein cooling fins extend radially outwardly from the vibrator casing.

49. A vibrator as claimed in claim 39, wherein the vibrator inducing means includes a shaft extending longitudinally within the casing and being rotatable about its longitudinal axis by an external source and wherein an eccentric weight is provided on said shaft.

50. A vibrator as claimed in claim 49, wherein the shaft and the eccentric weight are a unitary casting.

51. A vibrator as claimed in claim 49, wherein the eccentric weight is secured on the shaft.

52. A vibrator as claimed in claim 49, wherein a seal surrounds said rotatable shaft to prevent egress of lubricating liquid from within the vibrator casing and ingress of contaminants.

53. A vibrator including an elongated casing, a shaft extending longitudinally within said casing for rotation therein, an eccentric weight associated with said shaft for rotation thereby to create vibrations, a housing secured to said casing, and a plug secured within said housing and having at least one bore arranged to receive one end of a bar.

54. A vibrator as claimed in claim 53, wherein a first bore having a first diameter is provided in the plug, and a second bore having a second diameter is also provided in the plug, said first and second bores being aligned and opening out of the plug in opposite directions.

55. A vibrator as claimed in claim 53, wherein the aligned, oppositely directed bores are separated by a member embedded in the plug, said member providing the bottom of each bore.

56. A vibrator as claimed in claim 53, wherein the plug is interchangeably secured within the housing.

57. A vibrator as claimed in claim 56, wherein the plug is secured within the housing by elements extending through respective openings in the housing and into aligned bores in the plug.

58. A vibrator as claimed in claim 53, wherein the housing is secured to the casing by at least one strap element of staple-like configuration with the free ends of said staple secured to the housing and the body of the staple extending around and secured to the vibrator casing.

59. A vibrator as claimed in claim 53, wherein the housing and the casing are a unitary member.

60. A vibrator as claimed in claim 59, wherein cooling fins extend radially outwardly from the vibrator casing.

61. A vibrator as claimed in claim 53, wherein the shaft and the eccentric weight are a unitary casting.

62. A vibrator as claimed in claim 53, wherein the eccentric weight is secured on the shaft.

63. A vibrator as claimed in claim 53, wherein a seal surrounds said rotatable shaft to prevent egress of lubricating liquid from within the vibrator casing and ingress of contaminants.

64. A vibrator including a casing, a rotatable eccentric within said casing, a housing secured to said casing, a plug secured within said housing, said plug having at least one bore extending at least partially therethrough and dimensioned to receive one end of a reinforcing bar whereby vibration created by rotation of said eccentric will be transmitted to said reinforcing bar.

65. A vibrator as claimed in claim 64, wherein a first bore having a first diameter is provided in the plug, and a second bore having a second diameter is also provided in the plug, said first and second bores being aligned and opening out of the plug in opposite directions.

66. A vibrator as claimed in claim 65, wherein the aligned, oppositely directed bores are separated by a member embedded in the plug, said member providing the bottom of each bore.

67. A vibrator as claimed in claim 64, wherein the plug is interchangeably secured within the housing.

68. A vibrator as claimed in claim 67, wherein the plug is secured within the housing by elements extending through respective openings in the housing and into aligned bores in the plug.

69. A vibrator as claimed in claim 64, wherein the housing is secured to the vibrator unit by at least one strap element of staple-like configuration with the free ends of said staple secured to the housing and the body of the staple extending around and secured to the vibrator casing.



70. A vibrator as claimed in claim 64, wherein the housing and the vibrator casing are a unitary member.

71. A vibrator as claimed in claim 70, wherein cooling fins extend radially outwardly from the vibrator casing.

72. A vibrator as claimed in claim 64, wherein a shaft extends longitudinally within the casing, said shaft being rotatable by an external source, and wherein the eccentric is a weight provided on said shaft.

73. A vibrator as claimed in claim 72, wherein the shaft and the eccentric weight are a unitary casting.

74. A vibrator as claimed in claim 72, wherein the eccentric weight is secured on the shaft.

75. A vibrator as claimed in claim 72, wherein a seal surrounds said rotatable shaft to prevent egress of lubricating liquid from within the vibrator casing and ingress of contaminants.

76. A method of vibrating a member including the steps of placing a vibrator in contact with said member and vibrating said vibrator to vibrate said member.

77. A method of vibrating a bar including the steps of seating one end of said bar in a housing and vibrating said housing to impart vibrations said bar.

78. A method of setting concrete including the steps of providing at least one reinforcing bar, pouring wet concrete around said bar at least partially to embed said bar, seating a protruding end of said bar in a vibrator housing, and vibrating said vibrator housing to impart vibrations to said at least partially embedded bar.

79. A method as claimed in claim 76, wherein a plurality of reinforcing bars are assembled in a grid with the ends of at least some of said reinforcing bars protruding from the poured concrete for selective engagement by said vibrator housing to vibrate said grid within the poured concrete.